METEOROLOGICAL COMMITTEE.

One Hundred and Twenty-Fourth Meeting.

Air Ministry,
Kingsway,
W.C.2.

29th July, 1925.

Present:

Sir Arthur Schuster. (In the Chair).
The Director. Mr. Rose.
Colonel Lyons. Professor Sampson.
Sir Thomas Middleton. Mr. D. Brunt (Secy.)

999. The Minutes of the last meeting, held on the 11th March, 1925, previously circulated in typescript were approved.

Correspondence.

Letters regretting inability to attend the meeting were received from Mr. McAnally, Col.Hope, and the Hydrographer.

The Director reported that Captain Warden, who represented the Board of Trade, was unable to attend on account on account of illness. The Secretary was instructed to write to Captain Warden expressing the sympathy of the Committee, and their wishes for his speedy recovery.

War Office Representative on the Meteorological Committee.

Reported, the receipt of a letter from the War Office nominating Lieut. Col. J.U. Hope, D.S.O., R.A., Superintendent of Experiments, Shoeburyness, as War Office representative in lieu of Lieut.Col. Clapham.

Marine Observer.

A letter was read from Captain Carlton, of the cable ship Stephan, expressing his appreciation of the excellence of the "Marine Observer". The Committee was gratified to learn of the favourable way in which the publication had been received.

1000. Annual Report.

The Annual Report of the Meteorological Committee to the Air Council, previously circulated in proof, was approved by the Committee. It was agreed that if the statement of actual expenditure for the financial year was not available, it should be replaced by the Estimates voted by Parliament.

1001. Advisory Committee on Atmospheric Pollution.

(1) Appointment of new members.

The names of the following five representatives nominated by municipalities, were approved.

Salford	Dr. H. Osborne.
Leeds	Dr. J. Johnstone Jervis.
Bournville	Mr. J.K.Best.
Blackburn	Mr. G.P.Mitchell
Stoke-on-Trent	Dr. G. Petgrave Johnson.

(2) Future Conduct of the Investigation of Atmospheric Pollution.

The Director gave an outline of the development of the present difficulties in the conduct of the investigation of Atmospheric Pollution. The outline of a scheme for carrying on the investigation under the Department of Scientific and Industrial Research (File 571530/25), was discussed, and the Meteorological Committee approved of the transfer of the work of the Advisory Committee to the Department of Scientific and Industrial Research, with the proviso that Scotland should be formally included in the organisation.

1002. The Location of the Edinburgh Office.

A proposal made by the Corporation of Edinburgh that the Meteorological Office should lease the Calton Hill Observatory, Edinburgh, with a view to housing the Edinburgh Meteorological Office, there, was discussed.

The Committee adopted the following resolution

The Meteorological Committee desires to thank the Corporation of Edinburgh for their offer of the Calton Hill Observatory for the use of the Meteorological Office. The accommodation offered is, however, not sufficient nor suitable for the work of the Edinburgh Meteorological Office. The Committee would be willing to consider the matter further provided a scheme could be devised which would meet the following requirements.

(a) The accommodation at Calton Hill to be at least the equivalent of what the Office already possesses and at no increased cost.

(b) The accommodation to be convenient for the work of the Office.

(c) There must be the possibility of increasing the accommodation to meet any expansion of the work of the Meteorological Office.

(d) The Committee cannot undertake to take over the two assistants at present engaged at the Observatory.

1003. Course of Training for Observers at Health Resorts.

The report of a course of training held at Kew Observatory from April 27th to May 2nd, 1925, was approved. Approval was given to hold a similar course in 1926. (File 578477/25).

1004. Proposal to form a Gale Warning Board.

The Director outlined the condition of things which had led to the suggestion of forming a Gale Warning Board, consisting of representatives of the Air Ministry, Admiralty, Board of Trade, and the Scottish Fishery Board, while representatives of Trinity House and the Northern Lights Commission would be asked to attend when questions affecting their Lighthouses appeared on the Agenda. (File 583917/25).

The functions of the Board would be, to make representations to the competent authorities on the following subjects :-

(a) The number and location of gale warning stations.

(b) The organisation of the distribution of gale warning telegrams.

(c) The method of displaying the warnings.

The Committee approved of the formation of the Gale Warning Board.

1005. Apia Observatory, Samoa.

A letter from the Treasury to the Admiralty dated 29th June, 1925, giving the decision of the Treasury to reduce the contribution from Naval Votes towards the upkeep of the Apia Observatory, Samoa, from £800 per annum to £400 per annum, as from 1st April,1926, was circulated for the information of the Committee. (File 456547/23). (See Minute 997).

1006. Director's Report.

(1) The Director reported that the Treasury had sanctioned the proposal to invite Dr. J.Bjerknes of the Norwegian Meteorological Service, Bergen, to pay a visit of six months' duration during the coming winter to the Meteorological Office, London. (Min.993).

(2) The Director reported that arrangements had been made to send two Professional Assistants to India, to work in conjunction with the R.A.F. To obviate any difficulties relative to the appointment of civilians Englishmen to posts in India, they will be given pro forma commissions in the R.A.F.

(3) It was reported that temporary Meteorological Stations, each manned by one Grade III Clerk, had been opened at the summer Artillery Practice Camps, at Okehampton, Trawsfynydd, Redesdale, Buldon Ness, and Wahn (Cologne).

(4) Kew Observatory. The Director reported that Mr.Whipple had taken up the duties of Superintendent of Kew Observatory on the retirement of Dr. Chree on May 9th, 1925. Some progress has been made with the foundation for the Seismograph.

(5) The Director reported that the reorganisation of duties between M.O.2. (Forecast Division) and M.O.6. (Distributive Stations), and between M.O.3. (Climatology Division) and M.O.7 (British Rainfall Division), discussed at the last meeting (Minute 995), had been successfully inaugurated.

(6) The Director reported that, with the concurrence of the Ordnance Committee, the Kite Balloon Station at Shoeburynes was being dismantled.

1007. Date of Next Meeting.

The Committee agreed to cancel the meeting fixed for the 9th September, 1925, unless unforeseen developments should require a meeting. The next meeting would then be held on the 11th November, 1925.

Meteorological Committee.

One Hundred and Twenty-fifth Meeting.

Air Ministry,

Kingsway, W.C.2.

11th November, 1925.

Present:

Sir Arthur Schuster in the Chair.

The Director.	Mr. McAnally.
Captain Ellery.	Mr. Meadowcroft.
Lieut. Col. Hope.	Mr. Rose.
Colonel Lyons.	Professor Sampson.

Mr. D. Brunt (Secretary).

1008. The minutes of the last meeting, previously circulated were approved.

The Chairman extended a welcome on behalf of the Committee to Lieut. Col Hope and Captain Ellery, new members attending for the first time.

A letter regretting inability to attend was received from Sir Thomas Middleton, and the receipt of a telephone message from the Hydrographer regretting inability to attend was reported.

The following matters arising out of the minutes were discussed :-

(1) Death of Captain R.C. Warden: The Director reported the death of Captain Warden, the representative of the Board of Trade on the Committee, on August 15th. The Committee instructed the Secretary to write to Mrs. Warden expressing their sympathy with her in her bereavement and recording their high appreciation of the assistance given to the Committee by Captain Warden.

(2) Advisory Committee for Atmospheric Pollution: The Director reported that the scheme for the transfer of the work on Atmospheric Pollution to the Department of Scientific and Industrial Research had been adopted by the Council of the Department, and that provision had been made in the estimates of the Department of Scientific and Industrial Research for the coming financial year. If these estimates are approved by the Treasury, the transfer of the work on Atmospheric Pollution will be made on the terms already laid before the Meteorological Committee. After the transfer no further charges in respect to this work will be borne by the Air estimates.

3. Location of the Edinburgh Office.

The Director reported that the Superintendent of the Edinburgh Office had been in further communication with the City Council, and that a proposal to build an entirely new office on the Calton Hill estate was being considered by the City Council, who proposed to consider plans and the costs involved. It was agreed that no immediate action need be taken by the Air Ministry until a further communication was received from the City Council. (Minute 1002)

4. Apia Observatory Samoa.

Circulated - A copy of a telegram sent by the Governor-General of New Zealand to the Secretary of State for Dominion affairs, expressing the willingness of the New Zealand Government to carry on the work of the Apia Observatory as from 1st April, 1926, with a reduced contribution of £400 from His Majesty's Government, (File 456547/23).

1009. Board of Trade Representative.

Reported - the receipt of a letter from the Board of Trade, nominating Captain W. Ellery to succeed the late Captain Warden as their representative. (File 634524/25 and Minute 1005).

1010. Sketch Estimates for 1926-27.

The sketch estimates given below were circulated for the information of the Committee. The Director explained that the main increases were due to the proposed new stations at Boscombe Down, Aldergrove and Cardington, and a proposal to build additional quarters for the staff at Eskdalemuir.

METEOROLOGICAL OFFICE.

ESTIMATES 1926-7. (Sketch).

EXPENDITURE.

VOTE.	SERVICE.	1925/6 £	1926/7 £
10 F.	Salaries & Wages (Including F.S.S.U.) (Contributions.) H.Q. STAFF.	48,123	49,440
9 E.1.	Salaries & Wages (Including F.S.S.U.) (Contributions) OUT-STATION STAFF.	44,044	45,134
2.	Fuel, Light, Water and Barrack Services.	700	600
3.	Transport (a) Personnel - £1750 (b) Equipment - £ 750	2,500	2,500
4.	Instruments, Equipment & Stores.	6,500	6,500
5.	Minor New Works, Rent, Repairs & Maintenance.	6,000	8,350
6.	Research.	2,000	2,000
7.	Telegrams, Telephones, Cables & Misc.	12,856	13,181
8.	Superannuation.	2,400	2,200
		125,123	129,905

RECEIPTS (APPROPRIATIONS-IN-AID.)

VOTE.	SERVICE.	1925/6 £	1926/7 £
9 H.3.	Receipts of the Meteorological Office.		
	Royal Society.	400	400
	Sale of Instruments.	2,000	2,000
	Superannuation.	413	413
	Fees for supply of data, weather reports, inspections &c.	1,659	1,800
	Contributions from Army Votes in respect of Meteorological Stations etc., maintained for Army Purposes, 1. Salaries. 2. Kite Balloon (1925/6 only) 3. Instruments & Stores.	6,780	6,361
		11,252	10,974

1011. Marine Sub-Committee.

The Director reported that a meeting of the Marine Sub-Committee was held on 25th September, to consider mainly the most suitable form of wind charts for the oceans of the world.

Gale Warning Conference.

The Director reported that the Gale Warning Board, whose formation was discussed at the last meeting of the Meteorological Committee (Minute 1004), had been formed, and had met on the 30th October, to consider the general question of the distribution of gale warnings.

1012. Transfer of Mr. Watson-Watt, and Mr. Herd to the Department of Scientific and Industrial Research.

The Director reported that Mr. Watson-Watt and Mr. Herd, who had previously been seconded by the Air Ministry for duty with the Radio Research Board had now been definitely transferred to the Department of Scientific and Industrial research.

1013. Visit of Dr. J. Bjerknes of Bergen, Norway, to the Forecast Division.

The Director reported that the proposal (Minute 993) for inviting Dr. J.Bjerknes to spend six months in the Forecast Division, had been approved by the Treasury, and that Dr. Bjerknes had arrived on the 1st October. The Director outlined the way in which the services of Dr. Bjerknes were being utilised. At the end of the meeting the Director gave a brief outline of the ideas underlying the new methods of forecasting developed at Bergen, and Dr. Bjerknes gave some illustrations of his method by means of synoptic charts.

1014. Directors' Report.

(1) The temporary stations maintained during the summer at the Artillery Practice Camps at Okehampton, Transfynydd, Buddon Ness, Redesdale, and Wahn (Cologne) were closed at the end of firing practice.

(2) Crop Weather Stations.

Courses of instruction for observers at Crop Weather Stations were held at Kew from 28th September to 1st October (File 571551/25).

1015. Dates of Meeting during the year 1926.

The following dates of meeting were approved:-

January 13th.	July 14th.
March 10th.	September 8th.
May 12th.	November 10th.

METEOROLOGICAL COMMITTEE.

One Hundred and Twenty-sixth Meeting.

Air Ministry,

Kingsway, W.C.2.

10th March, 1926.

Present:

The Under-Secretary of State for Air (in the Chair)	
The Director	Mr. Meadowcroft
The Hydrographer	Sir Thomas Middleton
Captain Ellery	Professor Sampson
Colonel Lyons	Sir Arthur Schuster
Mr. McAnally	Mr. D. Brunt (Secretary)

1016. The minutes of the last meeting, held on 11th November, 1925, previously circulated in typescript, were approved.

Reported, the receipt of letters from Mr. P.J. Rose and Lieut. Col. Hope, regretting inability to attend.

1017. INTERNATIONAL MEETINGS DURING 1926.

(1) Meeting of a Committee to consider the Formation of an International Meteorological Bureau, to be held in Paris at the end of March.

The Director explained the suggestions put forward as to the proposed scope of the activities of the International Bureau. The Committee concurred in the proposal that the Director should attend, but the view was expressed that the functions of the Bureau should be limited to administration and the co-ordination of work, and should not itself attempt to organise research. (File 672085/26).

(2) Cloud Commission to be held in Paris early in April.

(3) International Meteorological Committee, composed of Directors of Meteorological Services, to meet at Vienna in September.

(4) International Commissions to meet at Zurich during the week preceding the meetings of the International Committee.

With regard to (2), (3) and (4) above the Committee agreed that the Director, or such representatives as he considered desirable, should attend in each case.

1018. UNOFFICIAL FORECASTS BROADCAST BY THE B.B.C.

The Director explained the manner in which the question of the issue by the B.B.C. of unofficial forecasts prepared by Lord Dunboyne, had arisen. An analysis of the forecasts prepared by Lord Dunboyne and issued in the "Field", was laid before the Committee.

The Committee, in approving of the action taken by the Director, agreed that it had no authority to object to any items included in the programme of the B.B.C, and that the Meteorological Office would continue to co-operate cordially as hitherto with the B.B.C, independently of any decision the company might make as to the inclusion in its programmes of unofficial forecasts.

Lord Dunboyne, who came by invitation of the Committee, was then introduced to the Committee. He explained that the weather indications in the "Field" were to be taken as expressions of probability of rain, rather than as definite forecasts. The Chairman explained to Lord Dunboyne that all that had occurred was that the Director had, at the request of the B.B.C, given his opinion as to the desirability of the B.B.C. issuing the forecasts. The Director had not vetoed the issue of his forecasts by the B.B.C. nor had he the power to do so. He re-affirmed the points noted in the last paragraph.
Lord Dunboyne then retired.

It was agreed that no further official action was necessary, but that it might be desirable for the Director to see certain members of the B.B.C, to explain to them the attitude of the Committee. (File 673643/26).

1019. THE INVESTIGATION OF ATMOSPHERIC POLLUTION.

The Director reported that the Treasury had refused to sanction the expenditure by the Department of Scientific and Industrial Research of more than £550 per annum, which was the average amount spent by the Air Ministry in previous years, in carrying out the investigation of Atmospheric Pollution. In view of this decision, the Department of Scientific and Industrial Research had not seen their way to take over the responsibility for the investigation.

The Director further reported that Mr. McAnally and he had attended a meeting of the Advisory Committee for Atmospheric Pollution, at which the present situation had been discussed. Mr. Lloyd of the Department of Scientific and Industrial Research also attended this meeting and put forward unofficially a suggestion that his Department might be prepared to contribute £500 towards the investigation, if the Advisory Committee would undertake to raise an equal sum from outside sources. The Advisory Committee had decided to try this suggestion. (Previous minutes 1001 and 1008. File 571530/25).

1020. ADVISORY COMMITTEE FOR THE EDINBURGH METEOROLOGICAL OFFICE.

It was reported that the University of Aberdeen had nominated Dr. J.E.Crombie, M.A.LL.D, as its representative on the Edinburgh Committee, for a period of two years from 1st April, 1926.

METEOROLOGICAL COMMITTEE.

One Hundred and Twenty-seventh Meeting.

Gwydyr House,
Whitehall.

14th July, 1926.

Present:-

Sir Arthur Schuster (in the Chair)
The Director
The Hydrographer
Captain Ellery
Lieut. Col. Hope
Colonel Sir Henry Lyons
Mr. McAnally.
Mr. Meadowcroft.
Sir Thomas Middleton.
Mr. Rose.
Professor Sampson.
Mr. D. Brunt (Secretary).

1021 The minutes of the last meeting, held on the 10th March, 1926, previously circulated in typescript, were confirmed.

The Director explained that the Under-Secretary of State for Air was unable to be present.

The Chairman expressed the congratulations of the Committee to Colonel Lyons on his receiving the honour of Knighthood, and to the Director on his receiving the honour of C.B.

1022 Annual Report, 1925-6. The Annual Report of the Meteorological Committee to the Air Council, previously circulated in proof, was approved by the Committee after some minor corrections.

1023 Committee to consider Units to be used in Meteorological Observations. The Director reported that the French Meteorological Service had decided to introduce the millibar as the unit of pressure in all observations and synoptic messages, as from the 1st January, 1927. When this has been done, millibars will be used along the whole of the Eastern Seaboard of the Atlantic from Spitzbergen to the Western Coast of Africa. The Director therefore proposed not to proceed with the formation of the Sub-Committee. The Committee concurred. (File 679406/26).

1024 Advisory Committee for Atmospheric Pollution. The Director reported that the Advisory Committee for Atmospheric Pollution had so far only succeeded in obtaining promises of annual contributions amounting to £278. 18s. Od. out of the total of £500 required under the scheme reported to the Meteorological Committee at the last meeting (Minute 1019). Efforts are being made to interest the organisations of manufacturers of gas and electricity. It was pointed out that an early decision is necessary in view of the absence of arrangements for carrying on the work of the Advisory Committee (File 567264/25).

1025 Issue of Gale Warnings by the British Broadcasting Company. The Director reported that a scheme was under discussion for the broadcasting of gale warnings when necessary, at 1 p.m., 4 p.m. and 7 p.m., for the information of shipping. These messages will be additional to the "Weather Shipping" messages issued daily at 10.30 a.m. and 9.30 p.m. The Committee concurred. (File 640941/26).

1026 Reduction of Work in the British Climatology Division. The Director having reported that the work of the British Climatology Division is now greater than the staff can cope with, it was resolved that a committee should be formed to examine the work done in the Division, and to advise whether it can be reduced so as to avoid the necessity of an increase of staff.

It was agreed that the Committee should consist of:-

Sir Arthur Schuster (Chairman)
The Hydrographer.
Mr. McAnally or Mr. Meadowcroft
The Director,

and should have authority to add one to its number, if that should be found advisable. (File 661564/26).

1027 Staff. - Method of Recruiting Technical Staff. The Director reported that at a conference held on the 6th July between himself, Mr. Lempfert, Mr. Nutt (S.1) and Mr.Abraham (S.2), consideration had been given to the future method of recruitment of technical staff. The view was taken that entry into the Meteorological Office should be by means of a competitive departmental examination, which could be combined with the general examination for departmental classes provided it was ruled that candidates should apply specifically for appointment in the Meteorological Office.

The suggestion was approved by the Committee.

1028 Director's Report.

1. Meteorological Reserve. The Director reported that the conditions of service for Officers of the R.A.F. Reserve for meteorological duties had been drawn up and circulated to the Professional Staff of the Office. (Copies were also circulated to the Committee).

   The conditions for enrolment of other ranks are now being drawn up.

2. Director's Visit to Scotland. The Director reported that he had visited the Scottish Observatories in June, and had found the work at Lerwick and Eskdalemuir going on well.

3. International Bureau. The Director reported that he had attended a meeting in Paris in March, 1926, to discuss the formation of an international Meteorological Bureau. He reported that no progress had been made, and that none was likely, in view of the lack of funds. (File 672085/26).

4. International Cloud Commission in Paris, April,1926. The Director reported that he had sent Captain C.K.M.Douglas to represent the Office at the meeting of the International Cloud Commission. The Commission proposes to re-issue the International Cloud Atlas. (File 676401/26).

5. Artillery Practice Camps. The Director reported that stations had been opened at two Practice Camps, at Trawsfynydd and Okehampton, and that two others would be opened at the end of July.

6. Anti-Aircraft Practice Camp. The Director reported that a Meteorologist had been posted to No.100 Squadron R.A.F. at Weston Zoyland, to meet the requirements of night-flying squadrons and of the Anti-Aircraft Artillery Units in connection with the summer camp at Watchet.

7. Gale Warning Board. The Director reported that a meeting of the Gale Warning Board was held on the 8th May. (Minute 1011).

METEOROLOGICAL COMMITTEE.

One Hundred and Twenty-eighth meeting.

Gwydyr House,
Whitehall, S.W.1.

25th November, 1926.

Present:

The Under Secretary of State for Air (in the Chair).	
The Director.	Mr. McAnally.
The Hydrographer.	Mr. Meadowcroft.
Captain Ellery.	Mr. Rose.
Lieut. Col. Hope.	Professor Sampson.
Colonel Sir Henry Lyons.	Mr. D. Brunt (Secretary).

1029. The minutes of the last meeting, held on 14th July 1926, previously circulated in typescript, were confirmed.

1030. Meteorological Section of the Royal Air Force Reserve.

The Director recalled to the Committee the scheme drawn up to provide for a meteorological service in wartime, by enrolling 23 officers and 122 men in the Royal Air Force Reserve. He explained that in view of the financial stringency the Chief of the Air Staff had ruled that it should be sufficient for the next two years to provide only 7 officers and 37 men, relying upon sufficient of these officers and men volunteering to go abroad if required in advance of a general mobilisation of the Reserve. He explained that the War Office had agreed that they would only require a meteorological service to be provided within two months of the date of the request for such a service being sent to the Air Ministry. (File S.17887).

The Director explained that a pamphlet giving the conditions of service for officers had been circulated to the professional staff of the office, and that applications for commissions in the Reserve had been received from 3 members of the Professional Staff, 7 members of the Clerical Staff, and 3 members of the general public. He stated that it was not proposed to grant commissions to members of the clerical staff, but that a further effort would be made to obtain further applications from members of the Professional staff.

The Committee concurred in this.

1031. Appointment of a Superintendent in connection with the new Civilian Meteorological Service in the Middle East.

In connection with the appointment of the necessary staff to provide a civilian meteorological service for the Middle East (previous minute 998), the Director reported that a Promotions Board had met, and had recommended the promotion to Superintendent of Captain J. Durward, now Assistant-Superintendent in charge at Calshot.

It was proposed that Captain Durward should have the acting rank of Superintendent, and that Mr. Giblett, who has held the acting rank of Superintendent since January 1925, should now be confirmed in the substantive rank of Superintendent.

The Committee concurred in these proposals.

1032. Advisory Committee for Atmospheric Pollution.

With reference to the scheme for the future running of the investigation of Atmospheric Pollution previously reported to the Committee (minute 1024), the Director reported that promises of contributions of over £500 had been received from municipalities and other bodies. This appears to remove the only difficulty in the way of the D.S.I.R. taking over the responsibility for the investigation of Atmospheric Pollution and it is hoped that the transfer will take place at the beginning of next financial year.

1033. Royal Agricultural Show at Newport, Mon. 1927. Request for a Meteorological Exhibit.

A request for a Meteorological exhibit at the Royal Agricultural Show to be held at Newport, Mon. in 1927 was laid before the Committee, who agreed that an exhibit should be prepared as in previous years.

1034. Developments at Malta.

The Director reported that as the result of a request from the Commander-in-Chief, Mediterranean Fleet, a month's trial had been made of the issue of a synoptic message in the evening, to be received and used by Naval units when away from Malta on exercise. This was in addition to the morning synoptic message which has been issued regularly. The Director pointed out that the trial had only been made possible by the staff working overtime, and leaving over any work which could be delayed. If the trial proved successful, and the Commander-in-Chief asked for an evening issue as a permanent addition, this would have to be done, and would necessitate additional staff at Malta, probably one Senior Professional Assistant and one locally recruited clerk.

The Hydrographer reported that the month's trial had been very satisfactory, and that a request for a permanent evening issue would certainly be put forward by Commander-in-Chief, Mediterranean.

1035. Upper Air work for the Navy.

The Director reported that a request had been received from the Admiralty for assistance in instituting a scheme for the observation of upper winds over the oceans by H.M. ships; and that it had been agreed that the Navy should provide instruments and the Air Ministry the consumable stores, such as balloons, charts and hydrogen, transport for these being arranged by the Navy. A beginning had been made with four ships, and this number would be increased as opportunity offered.

The Committee approved.

1036. Mauritius.

The Director reported that a request had been received through the Colonial Office that a member of the office staff should be seconded for a period of three years for duty as Director of the Observatory, Mauritius. The Director explained the difficulties in sending a suitable member of the office staff, and that he had recommended the appointment of Dr. L.F. Richardson, F.R.S. of the Westminster Training College, at a salary of £1000 per annum. No reply

has yet been received from Mauritius. The Committee concurred in the action taken by the Director.

1037. Rent at Eskdalemuir.

A letter from the Treasury concerning rent at Eskdalemuir was laid before the Committee (File 706228/26 Encl. 14A). Professor Sampson pointed out that the cost of building the house of Eskdalemuir was abnormally high on account of the cost of transport of material, the difficulties experienced with the foundations, and the fact that during the building the Office of Works personnel engaged upon the work had to be accommodated locally. He maintained that allowance should be made for these facts in assessing an economic rent, as in his opinion a rent of £100 a year was excessive.

The Committee agreed that no action should be taken at present, but that when the next change of officer-in-charge is made, the question of a local allowance should be considered.

1038. Electricity Supply Bill.

The Director reported that a conference held at the Admiralty had drafted a protection clause for insertion in the Electricity Bill, as follows :-

No generation, transformation, transmission, conversion or distribution of electricity under this Act shall be effected in such manner as to cause or to be likely to cause any interference with Government Observatories, Laboratories or Wireless Stations.

It was assumed that if the clause were rejected, there would be a further opportunity to propose a substitute for the above. No action on the part of the Committee was called for. (File 685391/26).

1039. Work of the British Climatology Division.

The report of the Sub-Committee to consider the work of the British Climatology Division (File 661564/26) was laid before the Committee, and the following resolutions proposed by the Sub-Committee and slightly amended, were adopted.

A - No change should be made in the present procedure of measuring rainfall at official and climatological stations, the procedure being as follows :-

At all official stations, rainfall is measured in millimetres, while observers at climatological stations are encouraged to use millimetres also.

B - In the work of the British Rainfall Organization, the inch should be recognised as the unit of measurement of rainfall.

C - In "British Rainfall", rainfall data should be published in inches only.

D - In the "Weekly" and "Monthly Weather Reports", both units should be used as at present.

E - In the case of those climatological stations which are regarded as of minor importance by

reason of the proximity of other stations, the Director be authorized at his descretion, to continue to receive the monthly returns of daily observations and to file them for reference without necessarily examining them or publishing summaries.

F - The weekly issues of the Weekly Weather Report should be discontinued and the publication should, in future, be prepared as an annual volume. The form and contents of the tables in the annual volume require further consideration.

G - That in view of the importance to water engineers and others of a large number of rainfall stations in rainfall work, and also of the commitments set out in the agreement of transfer of the British Rainfall Organization to the Meteorolgoical Office, the Committee does not see its way to recommend a reduction in the number of rainfall stations.

H - As a rule, and at the Director's discretion, the monthly totals and summaries contained in the rainfall and climatological returns should be accepted as received from the observers.

1040. Director's Report.

(1) The Director reported that the temporary stations opened at four Artillery Practice Camps and at Weston Zoyland had been closed at the end of firing practice.

(2) International Meteorology. The Director reported that eight Commissions had met in Zurich, September 13th - 20th, and that he and a number of other British representatives had been present. He had also attended the International Meteorological Committee at Vienna, September 23rd - 28th. The Director stated that the proposal for an International Bureau (vide minute 1017) had not been accepted, and that it has been decided to set up a Secretariat of two or three persons, to deal with matters arising out of the decisions of the International Committee.

(3) The Director reported that a course of training for Observers at Health Resorts had been held at Kew during the week September 27th to October 2nd, 1926. The course was attended by six observers from Health Resorts as well as by 11 observers from cropweather stations and the Ministry of Agriculture.

(4) A distributive station was opened at Aldergrove on July 15th, to meet the requirements of a night bombing Squadron.

(5) The distributive station at Andover was transferred to Worthy Down on November 1st, at the request of the Royal Air Force.

1041. Award of Rumford Medal of the Royal Society to Sir Arthur Schuster.

The Committee desired to record its congratulations to Sir Arthur Schuster (who was unable to attend the meeting owing to illness) on the award to him of the Rumford Medal of the Royal Society.

1042. Suggested dates of Meetings during 1927.

The following dates of meetings during 1927 were fixed:

January	12th	July	13th
March	9th	September	7th
May	11th	November	9th

[illegible] Committee on the three resolutions adopted at the meeting held in Edinburgh on the 25th January. (File 742100/27).

Professor Sampson explained that the members of the Edinburgh Committee were dissatisfied with their own inability to be of real assistance. They hoped that with more frequent meetings they would be able to devote more time to considering possible developments in meteorology, and might make Edinburgh a centre of research in Meteorological Science. They considered that this would

METEROLOGICAL COMMITTEE.

One Hundred and Twenty-ninth Meeting.

Gwydyr House,
Whitehall,
S.W.1.

9th March, 1927.

Present:

Colonel Sir Henry Lyons	(in the Chair).
The Director.	Mr. Mc Anally.
The Hydrographer.	Mr. Rose.
Captain Ellery.	Professor Sampson.
Lieut. Col. Hope.	Mr. D. Brunt (Secretary).

1043. The minutes of the last meeting, held on 25th November, 1926, previously circulated in typescript, were confirmed.

The Chairman explained that the Under Secretary of State was prevented from attending by the pressure of Parliamentary work, and that Sir Arthur Schuster was abroad on holiday.

The Chairman extended to Rear-Admiral Douglas the congratulations of the Committee on attaining Flag rank.

1044. Estimates for 1927-28.

The estimates for 1927-28 were laid before the Committee. The Director regretted that he had been unable to bring the estimates before the Committee before they had been finally approved by the Finance branches at the Air Ministry, and had actually been printed as a Parliamentary paper.

He explained the increases as compared with the estimates for the current year, these being mainly due to the substitution of civilian for service personnel in Egypt, the development of the Airship Services, and the development of the Home Defence scheme of the Royal Air Force.

1045. Advisory Committee for the Edinburgh Meteorological Office.

(a) The minutes of the two meetings of the Edinburgh Committee held on 7th December, 1926, and on the 25th January, 1927, were previously circulated to the Committee. The Director described the past procedure, by which one meeting of the Edinburgh Committee had been held each year, and drew the attention of the Meteorological Committee to the three resolutions adopted at the meeting held in Edinburgh on the 25th January. (File 742100/27).

Professor Sampson explained that the members of the Edinburgh Committee were dissatisfied with their own inability to be of real assistance. They hoped that with more frequent meetings they would be able to devote more time to considering possible developments in meteorology, and might make Edinburgh a centre of research in Meteorological Science. They considered that this would

be facilitated by the appointment of a Vice-Chairman, who would familiarise himself with the details of the work of the Edinburgh Office, and would call for meetings of the Committee when necessary.

The Committee concurred in the suggestionsthat the Edinburgh Committee should meet more frequently, and that a Vice-Chairman should be appointed. They appointed Professor Sampson as the first Vice-Chairman.

(b) It was reported that Professor Wedderburn had resigned his membership of the Edinburgh Committee as representative of the Royal Meteorological Society, but that a letter had been received from the University of Edinburgh nominating Professor Wedderburn as their representative for two years from April 1st,1927 This nomination was accepted by the Committee (File 742100/27

1046. Atmospheric Pollution. Future of the Investigation.

The Director explained the course of events since the last meeting of the Meteorological Committee (Minute 1032). He pointed out the difficulties which had arisen in the course of the negotiations between the Air Ministry, the D.S.I.R. and the contributing municipalities, the main difficulties being the constitution of the new committee which would control the work and the position to be offered to Dr. Owens. He reported that it was not yet certain that the D.S.I.R. would undertake the responsibility for the investigation, but he hoped that in consequence of the resolution passed at the last meeting of the Atmospheric Pollution Committee the transfer would be satisfactorily effected before the end of the financial year.

1047. Mauritius - Royal Alfred Observatory.

The Director reported that D.L.F. Richardson, F.R.S. had not been able to accept the offer of the post of Director of the Observatory. (see Minute 1036). He now proposed that Mr. R.A. Watson, at present Professional Assistant at the Meteorological Office, Edinburgh, should be seconded for a period of three years, for duty as Director of the Observatory at Mauritius, with a salary of £800 - 50 - £900. The Committee concurred. (File 69844/26

1048. Jamaica - Upper Air Observations.

The Director reported that promising results had already been obtained by pilot balloon observations at Jamaica and that the local authorities proposed to continue the work. (File 607824/25).

1049. Bermuda. - Proposed Establishment of a Station.

The Director laid on the table a letter from the Admiralty pointing out that the recent hurricane at Bermuda had raised again the question of establishing a meteorological station there, and stating that had a station been in existence at Bermuda at the time of the hurricane, its forecastswould have been invaluable,enabling some of the damage to H.M.ships and possibly even the loss of the "Valerian",to be avoided.

The Committee agreed that an endeavour should be made to persuade Bermuda to undertake the establishment of a station, and that the Director should approach Mr. Flood, the Colonial Office representative on the Committee, with a view to getting the Colonial Office to approach the Bermudan Government. (File 742152/27).

1050. Request for Meteorological Exhibits.

The Director reported that requests had been made for meteorological exhibits, at the British Association, Leeds, 1927, (File 743568/27) and at the Highland and Agricultural Society's Show, Edinburgh, 1927. (File 748188/27).

The Committee concurred in both cases.

1051. Visit of Airship Official to South Africa, Australia and India.

The Director reported that arrangements had been made to send Mr. Giblett, Superintendent of the Airships Meteorology Division, on a visit to South Africa, Australia and India, involving his absence from the office from May 6th to about 23rd October to assist in the selection of the most suitable locations for Airship bases. (File 741150/27).

The Committee concurred.

1052. The Supply of Meteorological Magazines to Colonial Observers.

The Director explained to the Committee the system by which each colony which prints its Meteorological Observations in Blue Books supplies 100 copies of the meteorological summaries to the Meteorological Office The Office binds these copies into sets for general distribution to meteorological services throughout the world. Recent replies to the so-called "catechism" have shown that in a few cases serious errors have been committed, and that generally those responsible for the observations do not show much interest in the work. It was suggested that interest in the work might be stimulated by the issue of the Meteorological Magazine free to those directly responsible for the observations, involving the addition of about 30 new addresses to the issue lists. (File 662640/26).

The Committee concurred in the suggested issue of the Meteorological Magazine, as the cost of the additional copies was very small in comparison with the value of accurate observation from these stations.

METEOROLOGICAL COMMITTEE.

One Hundred and Thirtieth Meeting.

Gwydyr House,
Whitehall.

13th July, 1927.

Present:

Sir Henry Lyons (in the Chair).
The Director.
Captain Ellery.
Mr. Flood.
Lieut.Col. Hope.
Mr. McAnally.
Mr. Meadowcroft.
Sir Thomas Middleton.
Professor Sempson.

Mr. D. Brunt (Secretary).

1053. The minutes of the last meeting, held on 9th March, 1927, previously circulated in typescript, were approved.

Apologies for absence were received from the Under-Secretary of State for Air, Sir Arthur Schuster, Mr. Rose and the Hydrographer.

1054. Annual Report.

The Annual Report of the Meteorological Committee to the Air Council previously circulated in proof, was approved by the Committee after some minor corrections.

1055. Royal Agricultural Show, Newport, Mon. 1927.

The Director reported that on account of some difficulties as to the payment of expenses at the show held last year, it had been decided to cancel the Meteorological exhibit at this year's show. The question of charges will be carefully considered before arranging for exhibits in future years. (See Minute 1033). (File 716602/26).

1056. Conference of Directors of Meteorological Services within the Empire.

The Director explained that in view of the questions which will arise in connection with the allocation of areas of observation to different services in connection with the Airships scheme, and of other questions which effect various meteorological services within the Empire, it was desirable to hold a conference of Directors of Meteorological Services within the Empire in the near future.

The Committee agreed that before approaching the Dominions and Colonial Offices the Director should first write to the Directors of the Dominion Meteorological Services asking their views as to the date which would be most suitable for holding such a conference, and asking if they would desire the Crown Colonies to be represented. (File 758391/27).

1057. International Union of Geodesy and Geophysics.

The Committee agreed that Mr. Lempfert and Mr. Whipple should attend the triennial meeting at Prague in 1927. (File 744339/27).

1058. International Radiotelegraphic Conference at Washington, October, 1927.

The Director reported that the International Commission for Synoptic Weather Information had appointed Col. Gold to be one of its representatives at the International Radiotelegraphic Conference, and that the Secretary of the Air Ministry had agreed to Col. Gold's attendance at the Conference being regarded as part of his official duty. The Committee concurred in the suggestion. (File 776276/27).

1059. Edinburgh Meteorological Committee.

The minutes of the meeting of the Edinburgh Meteorological Committee held on the 12th May, 1927 were circulated for information. (File 742100/27).

1060. International Secretariat.

The Director reported that a scheme had now been drawn up to provide for a small International Secretariat consisting of a Director and two or three clerks. The Secretariat will probably be located at first in Holland and later in Switzerland. The contribution from Great Britain towards the cost of the Secretariat will amount to 4,000 gold francs per annum, and a letter has been sent to the Treasury asking for sanction for the annual payment of this amount.

1061. International Upper Air Commission.

The Director explained that before the war of 1914-18 the observations made on "international days" were collected and published by Professor Hergesell, each contributing country buying a number of the publications at £1 each. The Director added that Professor Hergesell proposes to start publication again on the same basis, but that an alternative scheme would be for each country interested to subscribe a fixed sum annually. The Committee requested Mr. Meadowcroft, in conjunction with the Director to approach the Treasury to obtain their view of the most appropriate method of subscribing to this important work. (File 775771/27).

1062. Atmospheric Pollution Committee.

The Director reported that arrangements for the transfer of the investigation of Atmospheric Pollution to the

Department of Scientific and Industrial Research were now complete, and that the transfer would date from 1st April,1927. (File 571530/25).

1063. Stations at Artillery Practice Camps.

The Director reported that as in preceding years, four stations, each manned by one Grade III clerk, had been opened at the Artillery Practice Camps at Okehampton, Trawsfynydd, Redesdale and Buddon Ness, and that an additional station had been opened at Watchet, Somerset, to meet the requirements of the Anti Aircraft Artillery Practice Camp.

1064. Gale Warning Board.

The Director reported that a meeting of the Gale Warning Board was held on the 23rd June, 1927. A number of new stations have been opened, and others transferred to more suitable locations. (File 614948/25).

METEOROLOGICAL COMMITTEE.

One Hundred and Thirty-first Meeting.

Gwydyr House,
Whitehall,

9th November, 1927.

Present :-

Sir Henry Lyons	in the Chair
The Director	Mr. Meadowcroft.
The Hydrographer.	Mr. Rose.
Captain Elley	Professor Sampson.
Mr. McAnally	Mr. E. Brunt (Secretary)

1065. The minutes of the last meeting, held on 13th July 1927, previously circulated in typescript, were confirmed.

The Chairman explained that the Under Secretary of State was absent abroad and, therefore, unable to attend the meeting.

The Director reported that he had received a letter from Lady Schuster saying that Sir Arthur Schuster was seriously ill and unable to attend. The Committee desired that a letter should be sent to Lady Schuster expressing their regret at Sir Arthur's illness, and their wishes for his speedy recovery.

1066. Sketch Estimates for 1928-9.

The Sketch Estimates for 1928-29 were circulated for the information of the Committee. The Director explained that the increase of £11,450 on the present year's estimates, were mainly due to increases in staff at Malta, in the Middle East, in the Aviation Division, and in the Airships Division, and to the provision of necessary buildings. All the increases were due to an unavoidable increase in the amount of work done by the Office.

1067. Reprinting of the Weather Map and the Meteorological Glossary.

The Committee agreed that both the Weather Map and Glossary should be thoroughly revised, and that in the Glossary translations of the headings should be given in French, German, Danish, Swedish, Dutch, Spanish and Italian. (File 793990/27).

1068. Scientific Help for Malta.

The Director explained the difficulties under which the Meteorological work at Malta is carried on. He said that the meteorological conditions in the Mediterranean are very difficult, and little is known about them. To make matters more difficult the information received from many of the surrounding states is inferior in quality and irregularly received. As Dr. Harwood, the officer-in-charge, has little time to devote to purely investigational work the Director desired to have a Norwegian meteorologist sent to Malta, to investigate the Meteorology of Malta and to see what further use can be made of the information available. The Committee concurred in this suggestion but pointed out that the Admiralty should be consulted before any steps were taken to send a foreigner to Malta.

1069. The Monthly Publication of Upper Air Data.

The Director pointed out that at present a large amount of information relative to the upper air which is collected either for or in connection with the Meteorological Office, is not at present published; examples are the pilot balloon observations in Malta, the Middle East, and Iraq, while upper air data are being collected by a number of ships of the Navy. He considered that in those

cases in which there are no military or special reasons for withholding the data they should be made available for general use, and proposed that a monthly publication should be issued containing this information. The Committee concurred (File 756218/27).

Reprinting of "Wireless and Weather" by Captain Brooke Smith.

The Director reported that a series of articles by Captain Brooke Smith on "Wireless and Weather an Aid to Navigation" in the "Marine Observer" had been found to be so useful to sailors that they had been revised and published a second time in the journal. It was now proposed that these articles should be reproduced in book form as a Stationery Office publication. The Committee concurred in the publication, on condition that certain personal references were deleted, and requested the Director to write a foreword to the book.

1070. Extra Work involved by Transatlantic Flights.

A memorandum describing the work involved in the Meteorological Office by the recent attempts at Transatlantic Flights was circulated for the information of the Committee.

1071. Course of Instruction for Observers at Health Resorts.

The Director reported that a course of instruction for observers at Health Resorts was held at Kew Observatory, September 19th to 23rd, 1927. Seven observers attended. (File 769464/27).

1072. Course of Instruction for Observers of the Agricultural Meteorological Scheme.

The Director reported that a course of training for observers under the Agricultural Meteorological scheme had been held at Kew Observatory September 19th - 21st, 1927. The ten observers who attended followed

the first three days of the course for observers at Health resorts. (vide Minute 1071 above). (File 710530/27).

1073. Meteorological Exhibits at the British Association at Leeds (1927), and at the Highland and Agricultural Show 1927.

The Director reported that meteorological exhibits had been staged at the British Association and at the Highland and Agricultural Show, and had been extremely successful (See Minute 1050- Files 743368/27 and 748188/27).

1074. Meteorological Section R.A.F. Reserve - Annual Training.

A report was presented of a course of training at Cranwell, October 3rd - 15th 1927, for officers and men of the Meteorological Section, R.A.F. Reserve. This was attended by two officers and 15 other ranks. The training included regular climatological observations, pilot balloon ascents and the drawing of synoptic charts, together with instruction on the preparation of Meteor Telegrams for Artillery. In addition the men were paraded for one hour's squad drill daily.

1075. Standing Conference for Atmospheric Pollution. Appointment of an Air Ministry Representative.

The Director said that the Department of Scientific and Industrial Research had invited the Air Ministry to nominate one or more representatives on the Annual Conference which is in future to deal with the investigation of Atmospheric Pollution. The Director said that as Chairman of the Research Committee he would be a member of the Conference, and suggested that Mr. Whipple should be nominated as an additional representative of the Air Ministry. The Committee concurred. (File 740743/27).

1076. Edinburgh Meteorological Committee.

The minutes of the meeting of the Edinburgh Meteorological Committee held on October 10th, 1927 were circulated for the information of the Committee. (File 742100/27).

1077. Meeting of the Upper Air Commission at Leipzig, and of the International Union of Geodesy and Geophysics at Prague.

The Director reported that Mr. Lempfert had attended the International meetings at Leipzig and Prague, but that Mr. Whipple had been prevented by illness from attending. (See Minute 1057) (File 744339/27).

1078. International Bureau.

The Director reported that the Treasury had concurred in the payment of an annual contribution of 4,000 gold francs towards the cost of an international meteorological secretariat, on condition that subscriptions from other countries were forthcoming on the same scale. (See Minute 1060) (File 672085/26).

1079. Dates of Meetings during 1928.

The following dates of meetings during 1928 were agreed upon :-

January 11th	July 11th
March 7th	September ~~14~~ 12th
May 9th	November ~~9~~ 14th

METEOROLOGICAL COMMITTEE.

ONE HUNDRED AND THIRTY SECOND MEETING.

Gwydyr House,
Whitehall,
7th March, 1928.

Present:-

The Under Secretary of State for Air (in the Chair)	
The Director	Mr. McAnally
The Hydrographer	Mr. Meadowcroft
Colonel E. L. Bond	Mr. Rose
Captain Ellery	Professor Sampson
Colonel Sir Henry Lyons	Mr. D. Brunt (Secretary).

1080. The chair was taken by Sir Henry Lyons pending the arrival of the Under Secretary of State, who was detained by official duties.

The minutes of the last meeting held on 9th November 1927, previously circulated in typescript, were confirmed.

The Chairman congratulated Professor Sampson on behalf of the Committee, upon the award to him of the Gold Medal of the Royal Astronomical Society.

A message was received from Sir Arthur Schuster that he was still unable to attend on account of ill-health.

1081. The Form of Annual Report.

The Director explained that originally the Annual Report was an executive report of the Meteorological Committee to the Royal Society; that later it became an executive report to the Treasury; and that on the transference of the Meteorological Office to the Air Ministry it became the report of the Meteorological Committee to the Air Council. During the whole period the form of the report had undergone little change.

It was further explained that only a small number of copies of the report were purchased by members of the general public, the larger number of copies being distributed free to foreign meteorological services and to various institutions at home and abroad.

After some discussion it was decided that a Sub-Committee, consisting of Sir Henry Lyons, Mr. McAnally, and Captain Ellery, should consider the whole question of the form of the report, taking into account for whom it is at present written, and what changes were possible in order to give the report an appeal to the wider public who are now keenly interested in Meteorology. The Sub-Committee will report at the next meeting of the Meteorological Committee on May 9th.

1082. Edinburgh Meteorological Committee.

The minutes of the meeting of the Edinburgh Meteorological Committee, held on 16th January, 1928, were circulated for information.

It was agreed that the request made by the Edinburgh Committee for facilities to carry out a research into the development and travel of cyclones, should be granted. (File 742100/27).

1083. Conference of Empire Meteorologists.

With reference to the suggestion made at the meeting of the Committee on 13th July, 1927 (minute 1056) that a conference of Empire Meteorologists should be held during 1928 or 1929, the Director reported that he had written to the Directors of the Dominion services, asking whether they were in favour of having such a conference, and if so, whether 1928 or 1929 would be most convenient, and further whether they would desire the Crown Colonies to be represented. Replies have been received from the five Directors consulted. One votes definitely for 1928; another would prefer 1929, but thinks that in view of airship development the conference should be held in 1928; while the remaining three favour holding the conference in 1929, immediately before the meeting of the International Meteorological Conference. All agreed that the Crown Colonies should be asked to send representatives.

The Under Secretary of State said that in his opinion the conference should be held during 1928, in view of the urgency of the airship programme. It was finally decided that the Conference should be held, but that the question of the date of meeting should be left for discussion between the Under Secretary of State and the Director. (File 758391/27).

1084. Naming of Houses at Eskdalemuir.

The Director laid before the Committee a proposal to name the four houses provided for the staff at Eskdalemuir:-

Superintendent's House	-	Rayleigh House
Assistant's House	-	Schuster House
Two Cottages	-	Clazebrook House and Shaw House.

The Committee concurred (File 826762/27).

1085. Application for Meteorological Exhibits.

(a) British Association Glasgow, 1928.

The Committee agreed that an exhibit should be staged at the British Association meeting as in previous years. (File 817528/28).

(b) Highland and Agricultural Show, Aberdeen, 1928.

The Committee agreed that an exhibit should be staged similar to that in 1927, (File 748188/28).

(c) Schoolboys' Exhibition.

The Committee decided that it was not practicable to stage a suitable exhibit at the Schoolboys' Exhibition. (File 821676/28).

1086. Committee on Solar and Terrestrial Relationships at Leyden, July 1928.

The Director reported that he was a member of a committee appointed by the Industrial Research Council for coordinating the study of solar and terrestrial relationships, which will meet at Leyden July 5th-7th 1928, immediately before the meeting of the Astronomical Union.

The Committee agreed that it was highly desirable that the Director should attend the meeting. (File 738477/27).

087. Visit of Mr. Giblett to the Dominions.

The Director outlined briefly the itinerary followed by Mr. Giblett on his visit to the Dominions as a member of the Airship Mission. The result had been extremely satisfactory, and steps had been taken by the Dominions to initiate the additional meteorological work involved without delay.

088. The Issue of Flood Warnings.

The Director laid before the Committee the results of a preliminary enquiry into Floods on the River Thames, and stated that the whole question of the causes of the Floods were being investigated by a Research Committee representing the Tidal Institute, Liverpool, the Hydrographic Department and the Meteorological Office. Pending the completion of this investigation the Director had undertaken to issue warnings when conditions appeared likely to produce high tides. Such warnings will be issued after consultation with the Port of London Authority, and will be sent to the Press, the British Broadcasting Corporation, Scotland Yard, the L.C.C., and West Ham. The Director stated that if the Research Committee can define the causes which lead to abnormally high tides, the Meteorological Office can forecast the occurrence of these causes, but if the Research Committee is unable to define clearly the causes, it is probable that the issue of warnings by the Meteorological Office will have to be abandoned.

089. Bill for Fixing of Easter.

The Director reported that he had been consulted by the Home Secretary regarding points raised in the first reading of the Bill to stabilise Easter. He outlined the results of a comparison of the weather of Easter during 100 years, with the weather of Easter as fixed by the Bill, and the weather of Easter if one week later than the date fixed by the Bill. It is found that the later the date of Easter the better the weather on the average; but if the date of Easter is fixed according to the Bill, the weather on the average during the holidays will be neither better nor worse than it would be if Easter continued to be fixed by the present rules.

090. Director's Report.

1. The Director reported that the Treasury had sanctioned a new post of Senior Professional Assistant for the Navy Services Division.

2. The Director reported that the Government of New Zealand had advertised for a Meteorologist to take charge of the new developments in connection with airships. The officer appointed will undergo a period of training in the Meteorological Office. (File 825152/28).

METEOROLOGICAL COMMITTEE.

One Hundred and Thirty-Third Meeting.

Gwydyr House,
Whitehall.

14th November, 1928.

Present:-

Sir Arthur Schuster (in the Chair).
The Hydrographer.
Col. E.L.Bond.
Captain Ellery.
Mr.Lempfert (deputy for Director).
Sir Henry Lyons.
Mr.McAnally.
Mr.Rose.
Professor Sampson.
Mr.D.Brunt (Secretary).

1091. The minutes of the last meeting, held on 7th March, 1928, previously circulated in typescript, were confirmed.

Apologies for absence were received from the Under Secretary of State for Air and from Mr.Meadowcroft.

The Chairman reported that the Director was indisposed and unable to attend, but was recovering. He also reported that Sir Napier Shaw had successfully undergone a serious operation and was out of danger. The Committee requested the Chairman to send a letter to Sir Napier Shaw, expressing their hope for his speedy recovery.

1092. Death of Dr. Chree.

Mr. Lempfert reported that Dr. Chree had died at Worthing on the 12th August, at the age of 68. Dr. Chree had been Superintendent of Kew Observatory from 1893 until his retirement in 1925. The Committee desired that a letter should be sent to Dr. Chree's sister, expressing their sympathy with her in her bereavement, and recording their high appreciation of the work of Dr. Chree.

1093. Annual Report 1927-8.

The Annual Report for 1927-8 was laid on the table. The Committee expressed their approval of the form of the Report.

1094. Estimates for 1929-30.

The Estimates for 1929-30 were circulated for the information of the Committee. Mr. Lempfert explained that the increased estimate for instruments was due to the provision for additional magnetic instruments at Lerwick and Eskdalemuir. The Estimates were approved.

1095. Form of the Daily Weather Report.

Mr. Lempfert explained that four reports are published daily, and that the 7 a.m. information is reproduced in three of these. It was agreed that a small Sub-Committee should be asked to consider the whole question of the form in which the daily information should be published. It was agreed that the following should be asked to serve on the Committee:- Sir Frank Dyson, Mr. McAnally and Sir Thomas Middleton. (File 865000/28).

1096. Edinburgh Meteorological Committee.

The minutes of the meetings held in Edinburgh on 12th June, 1928, and 29th October, 1928, were circulated for the information of the Committee. (File 742100/27).

It was reported that Treasury sanction had been given for the expenditure involved in the Investigation proposed by the Committee, to cover a period of five years. (File 827235/28).

1097. Reports of Meteorological Exhibits at -

(a) British Association Glasgow 1928.

(b) Highland and Agricultural Show, Aberdeen 1928.

The reports of these exhibits were laid before the Committee, and approved. (a) File 817528/28. (b) File 748186/27).

1098. Meteorological Exhibit at the British Aeronautical Exhibition, July, 1928.

Mr. Lempfert reported that it was proposed to set up a Meteorological Exhibit at the British Aeronautical Exhibition July, 1928, the necessary funds, £500, being available from the

funds placed at the disposal of the department of Civil Aviation. The Committee concurred. (File 878870/28).

1099. International Meetings in 1928.

(a) International Commission on Synoptic Weather Information, held in London 29th May to 2nd June, 1928.

The Commission was attended by representatives of 17 countries. It discussed a wide variety of technical subjects. The report of the Commission is now in the press and will be circulated at an early date.

(b) International Committee on Solar and Terrestrial Relationships, held at Leyden in July, 1928. The meeting was attended by the Director. A report of the proceedings is in draft and will shortly be published by the International Union for Astronomy.

1100. Safety of Life at Sea. Revision of Convention.

Mr. Lempfert reported that a small inter-departmental committee had met on September 20th, 1928, to discuss the meteorological questions to be placed before the forthcoming International Conference on the Safety of Life at Sea. The recommendations of the committee referred mainly to the reporting of tropical storms, the organisation of marine meteorological services by all maritime natives, and the establishment of an ice-warning service for the southern hemisphere. (File 822546/28).

1101. Conference of Empire Meteorologists.

Mr. Lempfert reported that invitations to the proposed Conference of Empire Meteorologists had been issued through the Colonial and Dominions Offices, and through the Foreign Office to Egypt. The invitation has been accepted by Australia, South Africa, India, Irish Free State, Southern Rhodesia, and the East African Group. A refusal has been received from New Zealand, and no replies have been received from a number of

services, among whom the most important is Canada. The conference will probably be held in July, 1929. (See Minute 1083. File 758391/27).

1102. International Meteorological Secretariat.

Mr. Lempfert reported that the International Secretariat had commenced to function, and that the first British contribution towards its funds had been paid. (See Minute 1078. File 843984/28).

1103. Scientific Investigations.

(a) Scientific Help at Malta. Mr. Lempfert reported that Dr. T. Bergeron had now arrived at Malta. (See Minute 1068).

(b) Radiation Investigation by Mr. E.H.Gowan.

It was reported that Mr. Gowan, formerly a Rhodes Scholar at Oxford had published an important paper on the effects of radiation in the upper atmosphere. He desired to continue his investigation, and the Director had proposed and the Air Ministry had agreed that a grant of £200 should be made to him from the Research Fund to supplement a grant of £200 made from the Rhodes Scholarship funds, in order that Mr. Gowan's investigation should be continued under Professor Lindemann. The Committee concurred. (File 860060/28).

(c) Temperature Recording Installation at Ismailia.

Some details of an installation for measuring temperature up to heights of 200 feet on steel masts at Ismailia, were laid before the Committee.

(d) Wind Structure Investigation at Cardington.

Some details of an installation consisting of four anemometers, in use at Cardington for investigating the detailed structure of the wind, were laid before the Committee.

(e) Investigation of Tides and Floods.

Detailed reports by Dr.Doodson of the Tidal Institute, Liverpool, and by Mr. J.S.Dines of the Forecast Division had been prepared, and it was proposed to publish the two reports as a single Geophysical Memoir. The Committee concurred.

Mr. Lempfert further reported that it was felt that the warnings of dangerous tides could not be given with sufficient confidence as to justify the continuance of the present arrangement under which such warnings are communicated direct to the public. Arrangements had therefore been made that in future warnings of dangerous meteorological conditions shall be sent to the Police only. Such warnings would be regarded by the Police as conveyed for information only, and would not be communicated to the public. Further action would only be taken by the Police when information was received that the tide gauge at Southend had reached the danger point.

1104. Formation of a Meteorological Service in the Federated Malay States.

Mr. Lempfert reported that a proposal for the formation of a meteorological service at Singapore had been under consideration. An effort had been made to find a suitable person to place in charge of the service, but none of the superintendents of the Meteorological Office were prepared to take the post. Other possible solutions of the problem were being considered. (File 873612/28).

1105. Formation of a Combined Meteorological Service in British East Africa.

Mr. Lempfert reported that a scheme drawn up by Mr. Walters, of Kenya, formerly Director of the Observatory at Mauritius, had been approved, but that some difficulty was being experienced in making arrangements for the training of staff. (File 821635/28).

1106. Visit of Dr. Banerji.

In connection with the recent visit of Dr. Banerji to Europe, a letter was sent from the High Commissioner for India conveying his thanks to the Air Council for the facilities afforded to Dr. Banerji. (File 753697/27).

1107. Training of Meteorological Reserve at Cranwell, June, 1928.

It was reported that 3 officers and 14 other ranks had undergone a period of training at Cranwell, and that the work of the section during training was highly satisfactory. (File 823264/28).

1108. Training of Naval Officers.

Mr. Lempfert reported that arrangements had been made whereby (a) Naval Observers detailed for meteorological duties in Aircraft Carriers should in future undergo a course of 3 months' training mainly at the Meteorological Office, Air Ministry, (b) Naval Observers qualified in meteorology, who have had experience in Aircraft Carriers, should undergo a one month's refresher course of a more advanced nature. One officer was attached to the office during 1927 for a special course of training in meteorology extending over four months.

1109. Report of Courses of Training for Observers at Health Resorts, and Observers of the Agricultural Meteorological Scheme.

This course of training, held at Kew Observatory on September 24th, 25th and 26th, 1928, was attended by 24 observers. (File 829655/28).

1110. Opening of a New Station at Manston, August, 1928.

Mr. Lempfert reported that a new distributive station had been opened at Manston in August, 1928, in connection with the R.A.F. Scheme for Home Defence.

1111. Dates of Meeting during 1929.

The following dates of meeting during 1929 were agreed upon.

March, 13th.
July, 10th.
November, 13th.

METEOROLOGICAL COMMITTEE.

One hundred and thirty-fourth Meeting.

Gwydyr House,
Whitehall.

13th March, 1929.

Present.

The Under Secretary of State (in the Chair).
Sir Arthur Schuster (Vice-Chairman).
The Director Mr. McAnally.
The Hydrographer Sir Thomas Middleton.
Captain Ellery Mr. Rose.
Sir Henry Lyons Professor Sampson.
Mr. D. Brunt (Secretary).

1112. The Chair was taken by Sir Arthur Schuster pending the arrival of the Under-Secretary of State.

The minutes of the last meeting, previously circulated in typescript, were confirmed.

Apologies for absence were received from Lieut.Colonel Bond and Mr. Meadowcroft.

The Chairman extended the congratulations of the Committee to Sir Thomas Middleton on the award to him of K.C.I.E., and to Rear Admiral Douglas on the award of C.B., in the recent honours list.

1113. The Supply of Meteorological Information to the Public.

The Director explained that requests had been received from members of the public to see the synoptic charts and to discuss them with the forecaster, with the object of making certain decisions. In a recent case the enquirer had been informed that a charge of 10/6d. would be made on the occasion of each consultation, and this had proved prohibitive. The Director asked the opinion of the Committee on the desirability of making such a relatively high charge. After discussion the Committee agreed that a minimum charge should be made in such cases of 5/-, and that this fee could be increased according to the amount of time involved. (File 899289/29).

1114. Form of the Daily Weather Reports.

The Director reported that the Sub-Committee appointed at the last meeting (minute 1095) to consider the form of the daily weather reports issued by the office had met twice, but was not yet in a position to put forward final recommendations.

1115. Staff Matters.

The Director reported that considerable difficulties were being experienced with regard to the posting of staff on account of the lack of any provision for training Professional Assistants in the duties of any post before they were actually posted, as each post in the office has definite duties, often very specialized, assigned to it. He also drew attention to the rapidity with which Junior Professional Assistants were promoted, as compared with the serious block of promotion at the top of the Grade of Senior Professional Assistant. He suggested that a solution of these difficulties might be found by (a) an increase in the number of posts, and (b) the unification of the three grades of Junior Professional Assistant, Senior Professional Assistant, and Assistant Superintendent. The latter suggestion was made because in the specialised work of the Meteorological Office a time scale is much more practicable than a scale of grades. At the suggestion of the Chairman it was agreed that final decision should be postponed until the next meeting, and that in the interval the Director should discuss the matter with the establishment division at the Air Ministry, and if necessary with the Treasury.

1116. Meteorological Reserve.

The Director explained that the question of the provision of a meteorological service for war operations had given rise to much thought and discussion during the past eight years. He gave a brief account of the history of the case, and pointed out that whereas the latest estimate of the personnel required in the event of war was 17 officers and 73 men, only two of the professional staff of the office had joined the reserve. The conditions of service, with a retaining fee of £20 per annum, were not sufficiently attractive to appeal to members of the professional staff. There was an added difficulty that in the event of a national emergency, the number of meteorologists required for the war meteorological service would be much in excess of the number who could be spared from the office.

The problem has thus reached an acute stage, and no solution of the difficulty has yet been found.

1117. Formation of a Meteorological Service in the Federated Malay States.

The Director reported that Mr. C.D. Stewart, Assistant-Superintendent in the office, had been appointed to take charge of the service, and would proceed to Malay after a period of special training.

1118. Conference of Empire Meteorologists.

The Director reported that the Conference will be held from 20th to 30th August. Replies had been received from a number of dominions and colonies, and it appeared likely that the Conference would be well attended.

1119. Edinburgh Meteorological Committee.

The minutes of the meeting of the Edinburgh Committee held on the 14th January, 1920 had been circulated previously. Professor Sampson drew attention to the progress being made with the scheme for research. The Committee noted the announcement of the death of Mr. Andrew Watt, and desired to place on record their appreciation of the services which Mr. Watt had rendered to Meteorology in Scotland, and their regret at the loss which the office had suffered by his death.

METEOROLOGICAL COMMITTEE.

One hundred and thirty-fifth meeting.

Gwydyr House,
Whitehall.
10th July, 1929.

Present: Sir Henry Lyons (in the Chair).
The Director. Sir Thomas Middleton.
The Hydrographer. Mr. Rose.
Mr. McAnally. Professor Sampson.
Mr. D. Brunt (Secretary).

1120. The minutes of the last meeting, previously circulated in typescript, were confirmed.

Apologies for absence were received from Sir Arthur Schuster, Colonel Bond and Mr. Meadowcroft.

1121. Annual Report, 1928-9.

The Annual Report which had been previously circulated in proof form, was approved by the Committee.

1122. Form of the Daily Weather Report.

The Director reported that the Sub-Committee which had been formed in November, 1928, had held two meetings, and had recommended that the British report and the present Northern hemisphere (N) report should be combined and published in the evening, in time for posting by the last mail. The Stationery Office had however estimated that on account of the late hour of printing involved, this scheme would involve an additional expenditure of £1200 to £1500. The Director reported that in view of this, consideration was being given to the possibility of publishing a similar report in the morning. (File 865000/28.)

1123. Organization of Fleet Meteorology on Foreign Stations.

The Director referred to the improvement in the organization of meteorological work for the navy in the

Mediterranean which had resulted from the visit of Commander Garbett, Superintendent of Naval Meteorological Services, to Malta, in December 1925. He reported the formation of a Fleet Meteorological Committee by the Admiralty in 1928.

The Fleet Meteorological Committee now considers that it is desirable that Commander Garbett should similarly visit the East Indies, China and America, and West Indies Stations, and a letter has been received from the Admiralty asking if arrangements can be made for these visits.

The Committee concurred in the proposal.

1124. Proposal for an International Conference in the West Indies.

The Director reported that a despatch had been received from the Cuban Government proposing to organise an International Conference in Havana early in 1930, to study the cyclones of the West Indies, and in particular to consider

(a) The collection of information regarding cyclones, and the issue of warnings;

(b) Means of minimising the destructive effects of the cyclones;

and (c) The constitution of a permanent international organization.

The Director further reported that it was proposed to hold a conference of representatives of the Admiralty, Board of Trade, Colonial Office, Foreign Office and Air Ministry before replying to the request of the Cuban Government.

The Committee concurred in this course of action. (File 922313/29.)

1125. Investigation of Air Currents at Gibraltar.

The Director reported that several unexplained accidents had occurred to aeroplanes flying over the harbour

at Gibraltar. The last of these accidents occurred in February 1929, when two lives were lost. The subsequent court of enquiry decided that the accident was due to an eddy in the lee of the Rock, and recommended that the air currents in the vicinity of the Rock should be investigated in detail, the Meteorological Office being asked to send out an investigator. The Director had recommended that Mr. Field, formerly Director-General of Indian Observatories, should undertake the work, and Mr. Field had agreed. The Director further reported that an application had been made to the Treasury for authority to pay Mr. Field's travelling expenses and subsistence of three guineas per diem while actually at Gibraltar; Mr. Field being prepared to devote such time as might be necessary in England without payment. The Treasury's reply has not yet been received, but Mr. Field has already commenced work on the investigation, and arrangements have been made to investigate the eddies around a model of the Rock in one of the wind tunnels at the National Physical Laboratory.

(File 916978/29.)

1126. Annual Training, Meteorological Section, R.A.F. Reserve.

It was reported that the total strength of the Reserve is now 6 officers and 24 other tanks. Of these, 4 officers and 18 other ranks had been called up for training at Cranwell during the period June 3rd - 15th, 1929. The aim of the scheme of training was to provide officers and men with practice in meteorological duties such as they would be required to perform with an expeditionary force. The men were divided into three parties, and whenever possible two parties were sent on detached duty to Digby and Grantham, where they were required to set up meteorological stations, to put up pilot balloons, and prepare messages in the form

required by artillery or flying units. The section has now acquired a high degree of efficiency, and forms a small but skilled nucleus for a meteorological service with an expeditionary force. (File 823264/28.)

1127. Inter-departmental Committee on Staffs in Scientific Departments.

The Director reported that the Treasury had appointed a Committee to consider the terms of service of the professional staff employed in the scientific departments under the Chairmanship of Professor H.C.H. Carpenter, F.R.S. A memorandum by the Director, circulated to the Committee, gave the points which the Director had stressed in his evidence to the inter-departmental Committee, namely, that anyone joining the staff of the Meteorological Office had little or no prospect of getting beyond a basic salary of £700 a year; that the number of higher posts in the Meteorological Office was relatively much lower that in any of the other scientific branches; and that outside the Government Service there were no openings for meteorologists. Further it was urged that the three lower grades of the Professional Staff of the office should be combined, both in order to make the service more attractive and in order to facilitate administration.

1128. Conference of Empire Meteorologists.

The programme of the conference was laid before the Committee for their information.

1129. International Conference of Directors.

The Director reported that the International Conference of Directors, which meets every six years, will meet at Copenhagen on September 9th - 21st, 1929. The Committee approved the attendance of the Director, of Colonel Gold as President of the Synoptic Commission, of

Captain Brooke-Smith as member of the Marine Commission, and of two ladies as Secretaries. (File 862221/28.)

1130. Proposal for a Second "Polar Year".

The Director referred to the very successful "Polar Year" of 1882-83, when twelve nations took part in polar investigations, and explained that it was desired to celebrate the jubilee by a second "Polar Year". He pointed out the great need for study of the air currents over the Arctic, and their bearing on new meteorological theories, as well as for observations of magnetic phenomena and aurorae. The scheme insofar as it has been considered in detail, aims at establishing permanent or semi-permanent stations as near the poles as possible, rather than sending expeditions in ships. The Director expressed the hope that the Committee would give strong support to the project when an application for funds was put forward. The Committee agreed that the project should be supported. (File 817436/28.)

1131. Edinburgh Meteorological Committee.

The minutes of the meeting held on 11th June, 1929, had been previously circulated to the Committee. The Director reported that he had visited Scotland in order to preside at this meeting.

1132. (a) Safety of Life at Sea.

The Director reported that in the International Convention for the Safety of Life at Sea two articles bearing on Meteorology had been inserted, one making it compulsory for ships meeting a tropical storm to communicate warning of this to ships in the vicinity and to the competent authorities, as in the case of derelicts and dangerous ice; the other encouraging the collection of meteorological data by ships at sea.

(b) Load-Line Committee.

The Director reported that the report of the small committee formed 4 years ago under the presidency of

Admiral Learmouth, Hydrographer, to advise on the geographical zones to which the special seasonal conditions of loading prescribed by the British Tables of Freeboard should apply had recently been considered by the Load-Line Committee. That committee had called upon shipowners and representatives of several countries to say whether they agreed with the proposed limits of the various zones, and objections had been raised to some of the boundaries. The Director and the Hydrographer had been asked to consider what could be done to meet these objections, and certain modifications in the boundaries had been suggested. (File 908257/29.)

1133. Meeting of Conference on Ozone in the Upper Atmosphere, in Paris. 15th - 17th May, 1929.

The Director reported that Dr. Whipple had attended the conference. (File 907840/29.)

1134. The meeting was about to break up when the Under-Secretary of State for Air came in. Members of the Committee were introduced to him. In view of the fact that the Under-Secretary is usually detained at the House of Commons on Wednesday afternoons, it was decided that the next meeting should commence at 4.0 p.m. (Tea at 3.45 p.m.).

METEOROLOGICAL COMMITTEE

One hundred and thirty sixth meeting.

Gwydyr House,
Whitehall.

13th November, 1929.

Present:-

The Under Secretary of State for Air (in the Chair)
The Director, Mr. Meadowcroft.
The Hydrographer, Sir Thomas Middleton.
Captain Ellery, Professor Sampson.
Sir Henry Lyons, Sir Arthur Schuster.
Mr. McAnally. Mr. D. Brunt (Secretary)

1135 The minutes of the last meeting, held on the 10th July, 1929, previously circulated in typescript, were confirmed.

1136 Estimates for 1930-31.

The estimates for 1929-30 were laid before the committee. The Director explained that the net increase of £13,500 was mainly due to normal increments in salary, the provision of 6 additional professional assistants to provide a reserve (see minute 1115), the proposed civilianisation of the meteorological service in Iraq, and proposed new stations at Manchester and Hull. The estimates were approved.

1137 Visit of Mr. Field to Gibraltar.

The Director reported that Treasury sanction had been received for the payment of Mr. Field's expenses in connection with the investigation at Gibraltar (see minute 1125). He explained that observations of the flow around a model of the Rock in one of the wind tunnels at the National Physical Laboratory had led to extremely interesting results. Mr. Field left for Gibraltar on October 11th, and after some preliminary investigations there, is returning at an early date to get further instrumental equipment. (File 916978/29).

1138 Form of the Daily Weather Report (previous minute 1122).

The Director reported that the Sub-Committee had held a further meeting and had put forward a scheme for the issue of a report based on 7 a.m. observations combining the present B report with the Northern Hemisphere chart. The recommendations of the Sub-Committee were approved. (File 865000/29).

1139 The Investigation of Visibility.

The Director outlined the circumstances which had led to the calling together of a conference at the War Office of representatives of a large number of departments interested in questions of visibility. The Conference decided that the fundamental investigations started by the Chemical Warfare Committee should be continued, and that as the investigation is essentially a meteorological one, the work should be done by the Meteorological Office. The War Office has now sent an official request that we should undertake this work. Treasury sanction is being sought to spend a sum of about £700 per annum for five years, to be charged to the Research Grant. It is hoped that it will be possible to secure the services of Mr. M.G. Bennett of Bristol University, who carried out the earlier work for the Chemical Warfare Committee, to take charge of the work under the Meteorological Office, for a period of five years. The Committee approved of the charging of the investigation against the Research Grant. (File 960436/29).

1140 Change over of Superintendents.

The Director reported that as from December 2nd, the following changes of Superintendents would be made.

Mr. Corless from M.O.7 (British Climatology) to M.O.2 (Forecast).

Mr. Dines from M.O.2 to M.O.4 (Instruments).

Mr. Bilham from M.O.4 to M.O.7.

1141 Conference of Empire Meteorologists held in London, August,1929.

The Director reported that the Conference was attended by 8 Directors of Meteorological Services, one ex-Director, and 16 other representatives of Dominions and Colonies. He gave a brief outline of the subjects discussed at the conference, and explained that the full report of the Conference was now being printed - (Previous minute 1128 - File 758391/27).

1142 International Conference of Directors, Copenhagen, Sept.1929.

The Director reported that at the meetings of the International Conference and its commissions a number of important resolutions had been passed. Among these he mentioned (a) the adoption of land codes for temperate and for tropical regions, and of short and long codes for use at sea; (b) the adoption of the scheme of selected ships; (c) the exchange of continental information.

In regard to the last of these he explained that the scheme contemplated the issue of collective messages covering Western Europe by France, Central Europe by Germany, Russia by Russia, America by N.S.A. and a collective European message to America by England. There was considerable discussion as to the wider question of policy involved, and the possibility of the cost being prohibitive. Further discussion was postponed until a formal request is received from the President of the Conference, when the question will be again submitted to the Committee. (File 862221/28. Previous minute 1129).

1143 Second Polar Year. (Previous minute 1130).

The Director reported that the scheme for a second Polar Year had been accepted at Copenhagen. With regard to the British contribution to the scheme, he thought the best way would be to ask the Royal Society, the Royal Society of Edinburgh, and the Royal Geographical Society, to form a committee to work out ways and means. Such a committee would be in a position to ask for public subscriptions, and to ask Government for financial assistance.

It was proposed that the main British contribution to the investigation should be to re-open the station at Fort Rae, and to re-establish the observatory on Ben Nevis. The total cost of Fort Rae would be about £6000, and the Director proposed to meet this by an annual payment of £1500 for 4 years from the Research Grant.

The Committee concurred in the general scheme (File 955811/29).

1144 International Conference in West Indies 1930. (Previous minute 1124).

The Director reported that the conference of representatives of the Admiralty, Board of Trade, Colonial Office, Foreign Office and Air Ministry, to which reference was made at the last meeting, had agreed that he should attend the International Conference in Cuba in January, 1930. The Committee concurred. (File 922313/29).

1145 Meteorological Exhibit at the Aeronautical Exhibition Olympia, 1929.

The Director reported that an exhibit had been staged at the Aeronautical Exhibition, and had proved an attractive feature of the Exhibition. (Previous minute 1098, File 878870/28).

1146 Edinburgh Meteorological Committee.

The minutes of the meeting of the Edinburgh Committee held on 29th October, 1929, were laid on the table. (File 898482/29).

1147 The Director.

The Chairman announced that the emoluments of the Director, which had hitherto been £1200 per annum with civil service bonus, should henceforth be on a scale of £1200 - £100 - £1500, with civil service bonus, this scale to be personal to the present holder of the office.

He further announced that Dr. Simpson had recently been awarded the Symons Gold medal of the Royal Meteorological Society, and extended to him the congratulations of the Committee.

1148 Dates of meeting during 1930.

The following provisional dates of meeting were agreed upon.

January 15th	March 12th
May 14th	July 9th
September 10th	November 12th

The meetings fixed up for January, May and September, will only be held if circumstances require these meetings.

METEOROLOGICAL COMMITTEE.

One Hundred and Thirty-Seventh Meeting.

Gwydyr House,
Whitehall.

12th March, 1930.

Present:

Sir Henry Lyons (in the Chair).

The Director.	Mr. Meadowcroft.
Col. Bond.	Sir Thomas Middleton.
Captain Ellery.	Mr. Rose.
Mr. McAnally.	Professor Sampson.

Mr. D.Brunt (Secretary).

Mr. Lempfert also attended.

1149. The minutes of the last meeting, held on 13th November, 1929, previously circulated in typescript, were confirmed.

Letters regretting inability to attend the meeting were received from the Under-Secretary of State for Air, and the Hydrographer.

1150. Additional Computing in connection with Crop Weather Stations.

The Director explained that the Empire Conference had decided to introduce the week as unit of time for summarising the statistics of agricultural meteorology, but that it was desirable that the observations made at crop weather stations should also be summarised monthly. In view of the amount of work which this would throw on the observers at the 21 crop weather stations the Ministry of Agriculture and Fisheries has asked that the work of summarising should be undertaken by the Meteorological Office.

The Director pointed out that this work would involve an increase of the staff of the office by one clerk. He further explained that the work could be done more efficiently and expeditiously in the office than it could be

done by the observers themselves, since the clerical staff were accustomed to such work, and had the advantage of using computing machines.

The Committee agreed that it was desirable that the work should be undertaken by the office, but the opinion was expressed that the Meteorological Office should be consulted by the Ministry of Agriculture and Fisheries with regard to any increase in the number of stations.

1151. The Investigation of Visibility. (See Minute 1139).

The Director reported that the Admiralty had refused to contribute one-third of the cost of this investigation and that the Treasury had raised difficulties with regard to the conditions of service which had been suggested for Mr. Bennett. No final decision had yet been reached.

1152. Exchange of Visits of Professional Meteorologists at Terminal Aerodromes on International Civil Air Routes.

The Director reported that at the meeting of the International Air Conference held in Zurich in October, 1929, it was decided that an exchange of visits between the meteorologists at the main aerodromes on air routes would be of value in helping towards a more efficient meteorological organisation.

The Committee agreed that these visits were desirable from a Meteorological Standpoint, and recommended that arrangements should be made for the meteorologist at Croydon to visit the principal stations on the continent. (File 995/30).

1153. The proposal to give "Excellent" awards to observers on Selected Ships.

The Director explained the present system whereby about 40% of the meteorological logs received from observing ships are classed as "excellent", the awards for "excellent" logs taking the form of the presentation of a bound annual volume of the Marine Observer. As from the 1st May, 1930,

about 170 more ships will be asked to issue wireless messages, and to return to the Marine Division registers containing copies of these wireless messages. The Committee agreed that these wireless registers should be considered for "excellent" awards in the same way as the meteorological logs. (File 804084/29).

1154. The Imperial Agricultural Research Conference in Australia in 1932.

The Director reported the receipt of a letter from Mr. Black, Secretary of the English Sub-Committee for organising the Imperial Agricultural Research Conference in Australia in 1932, asking whether he agreed that it was desirable that representative meteorologists should be present at the Conference.

The Committee considered that it was desirable to obtain more information from the Organising Sub-Committee as to the part which Agricultural Meteorology will play at the Conference before coming to any decision to send an English meteorologist to the Conference. (File 14836/30).

1155. Form of the Daily Weather Report. (see Minute 1138).

Copies of the Daily Weather Report in its new form, for the day of meeting, were laid on the table for the information of members of the Committee.

The Committee agreed that the Meteorological Office was to be congratulated on the production of such a report.

1156. International Visits.

i. International Upper Air Commission in Madrid June, 1930.

It was agreed that Mr. Lempfert, who is Secretary of this Commission, should attend its meeting in Madrid...

ii. International Union of Geodesy and Geophysics, Stockholm, August, 1930.

It was agreed that the Director and Dr.Whipple should attend the meeting of the Union.

iii. International Air Conference. Prague, April, 1930.

It was agreed that Captain Entwistle should attend the Conference.

iv. International Conference in West Indies. (See previous Minute 1124).

The Director reported that at the suggestion of France this conference had been postponed till December, 1930.

1157. Edinburgh Meteorological Committee.

The minutes of the meeting held on 21st January, 1930, were laid on the table.

1158. Director's Report.

i. Increases of Staff.

The Director reported that Treasury sanction had been received for the appointment of 6 additional Junior Professional Assistants, and of a Port Meteorological Officer for London. (see Minute 1115).

ii. Artillery Practice Camps.

The Director reported that a request had been received from the War Office for the provision of meteorological stations at 4 Summer Artillery Practice Camps. The necessary arrangements are being made.